

Fireplace Installations

Most people know that the romance of woodburning fireplaces is seriously offset by the heat loss and pollution they cause. Because they actually lose more heat than they produce, many of them sit unused throughout most of the year except for special occasions. An inefficient fireplace takes up space and produces little benefit other than ambiance.

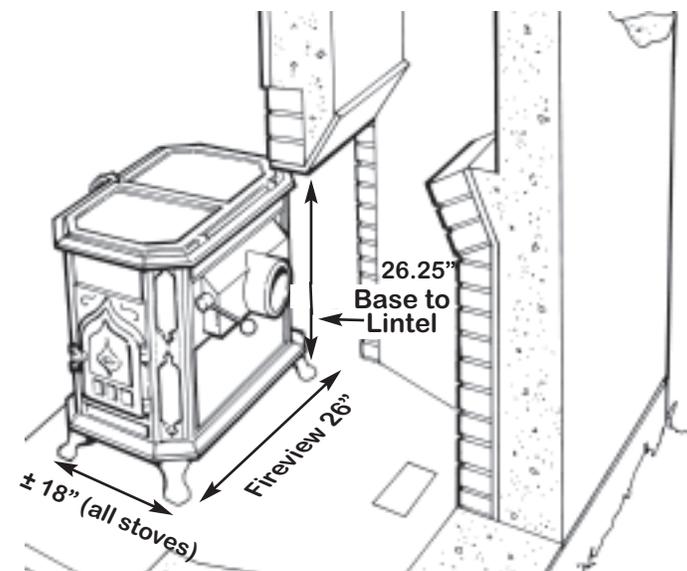
It's only natural to think about converting your existing fireplace to a warm gathering place that provides an efficient source of heat. Although a *fireplace insert* is certainly an option, a freestanding wood stove will produce more heat with greater efficiency. This article illustrates how to evaluate your own fireplace for a freestanding woodstove installation.

First things first – will it fit?

There are two measurements that are critical in determining how easy your installation will be:

1) The first measurement is the height of the fireplace opening. The top of the pipe exiting your soapstone stove will be approximately 26" off the hearth floor (25.75" for the Fireview, Keystone & Palladian; 26.25" for the Classic). Assuming the fireplace opening is made entirely of non-combustible material, a minimum opening height of 26.25" is required to allow for a slight rise in the pipe (1/4" per foot).

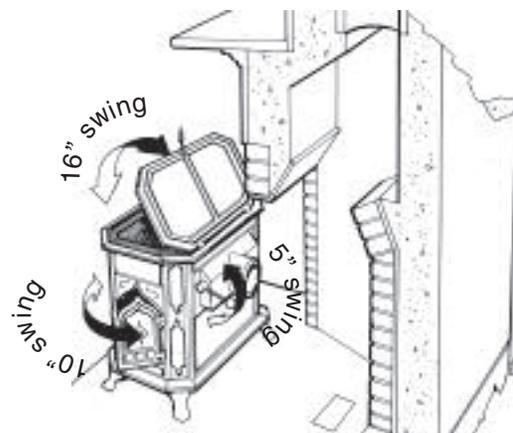
2) The second crucial measurement is the depth of the hearth. The hearth is technically the floor of the fireplace, but it has also come to mean the extension in front of the fireplace, usually of the same masonry materials. The



hearth prevents heat transfer to combustible flooring materials. Our wood stoves all measure 20 inches from front to back, and require an approved non-combustible hearth that extends eight inches beyond the front of the stove. The eight inches can be reached by either the horizontal or vertical dimension, or by a combination of both. For example, if the hearth was 4" above the floor height, then the front of the stove could be 4" from the front edge of the hearth (4" + 4" = 8" clearance). You also need sixteen inches of hearth extending from the loading door side in order to meet the side clearance requirement.

Couldn't the stove be put back into the fireplace?

Our stoves are side loaders and they have control levers located toward the back that must always be accessible. The Fireview and Classic both have top lids that lift up for catalytic maintenance. So no matter which model, you really need to have the stove sit out in front of the fireplace opening. Besides, by sitting in front of the fireplace, more heat is directed into the living area instead of being radiated into the masonry fireplace materials.

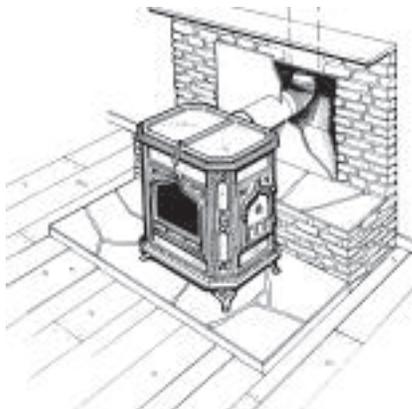


Stove should be placed in front of the fireplace opening so controls and doors are easily accessible

What if you're working in a tight space?

What if your fireplace opening is a little short? What if your hearth is not deep enough to hold the stove? As always, the devil is in the details. Options do exist for situations where the fireplace specs do not match up neatly with the stove's specs.

Fireplace opening is a little short: Unfortunately, we cannot shorten the legs on our stoves because the leg height is an integral part of the stove's safety testing. We can, however, create a custom adapter that will lower the flue height slightly. If you need to reduce the flue height by an inch or so – give us a call. We will evaluate the rest of your chimney system and determine if a custom adapter will work in your installation. If you need to lower the flue height by more than an inch or so, an adapter will not work for you. Your best options at that point are to raise the height of the fireplace lintel, lower the height of the hearth, or (if raised) consider installing the stove on a new lower hearth in front of the existing raised hearth.



Hearth extension added in front of fireplace with raised hearth

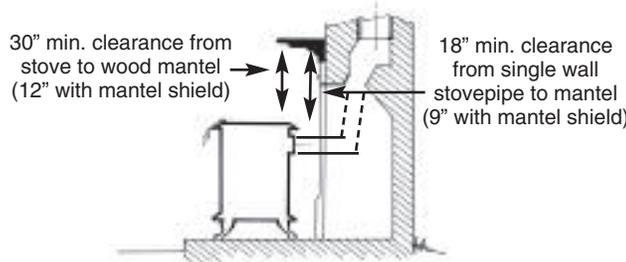
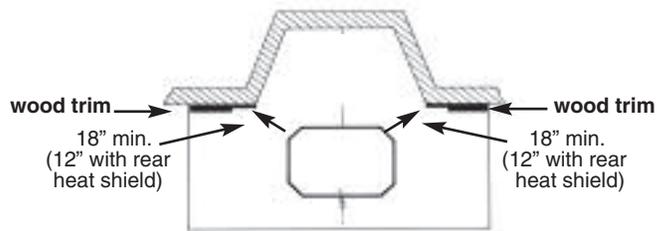
and other masonry materials conduct heat, it is essential that they be insulated from combustible flooring with a non-conductive material such as a half-inch thick cement backer board. See our article on [Planning Your Hearth](#) for more tips on non-combustible hearth construction.

A much easier option is to build or purchase an approved manufactured hearth pad that would fit over or in front of the existing hearth. They stand approximately 1" high, and come in either a full hearth pad size, 48" x 60", or as extensions, available for use with an existing hearth (12" x 48" or 18" x 48"). If the old hearth is flush with the floor, you can just place the new, full size pad over the old. If the old hearth is raised, you may need to put the stove and new pad in front of the existing hearth (taking up more room in the living area).



Special Clearance Considerations: Many fireplaces have wood trim surrounds or wood mantels that also require minimum clearances from the stove. The clearance required from the stovetop to combustibles is 30 inches. If you have a wood mantel

above the stove that is less than the required 30 inches, it will need its own shield, usually made from sheet metal, bronze, or copper. The shield will need a one-inch space between it and the mantel, using non-combustible spacer washers. Shields may also be required to protect wood trim along the sides of the fireplace.

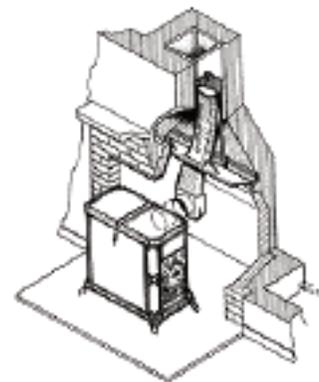


Don't forget to account for the clearances to wood trim or mantels surrounding a fireplace

Venting

When you install a wood stove on a hearth to take advantage of the fireplace and chimney, it is not acceptable to simply run a pipe from the stove into the fireplace and block off the opening. It's against the fire code, it will create dangerous creosote glazing in the smoke shelf above the fireplace, and you won't get the draft you need to run the stove properly.

Assuming your chimney is already "lined" with terra cotta, or "fireclay" tile, it is acceptable to run a stainless steel pipe or a flex-liner up through the smoke chamber, at least to the first tile at the bottom of the chimney. A better method is to extend the pipe all the way to the top of the chimney. This will ensure the best performance from your stove and liner system. If your chimney is not lined with a clay liner, or if the liner is cracked or broken, your stainless steel liner will need to be insulated.



Often, a liner must be ovalized to pass through a fireplace damper

It's important to know the actual dimensions of your existing flue to be certain the liner will fit inside it. It's rare that it won't, but if the liner needs to be insulated, it will add one or two inches to the liner diameter, depending on the type of insulation used. In most cases, flue size often can only be accurately determined by measuring at the top of the chimney where the flue is accessible.

Dampers

Most fireplaces have a damper, which will have to be contended with when installing the liner. The plate that opens and closes (the damper or "valve") will need to be removed in most cases. The frame itself is usually built into the chimney and can't be removed, but it does create a narrow passage, often about 4 or 5 inches. The only way to get a six-inch liner through this restricted space is to have it "ovalized" at the bottom end. For no extra charge, the manufacturer of our flex-liners can compress the first three feet into an oval shape that can be pulled through the narrow damper opening. (See our article [Masonry Chimneys.](#))

Replacing a factory built fireplace:

Replacing a factory-built fireplace with a wood stove raises some important safety issues. Wood stove chimneys are tested for approval by Underwriter's Labs to perform safely under conditions as hot as 2100°. Only "Class A" pipe, which has conformed to the requirements of this test, UL 103 HT, is recommended for use with a wood stove.

Factory built fireplaces are usually manufactured with their own chimneys, which are designed to be used only with that particular model fireplace or insert. Many, though not all, of these chimneys are rated only to 1700° and are not suitable for use with high efficiency wood stoves.

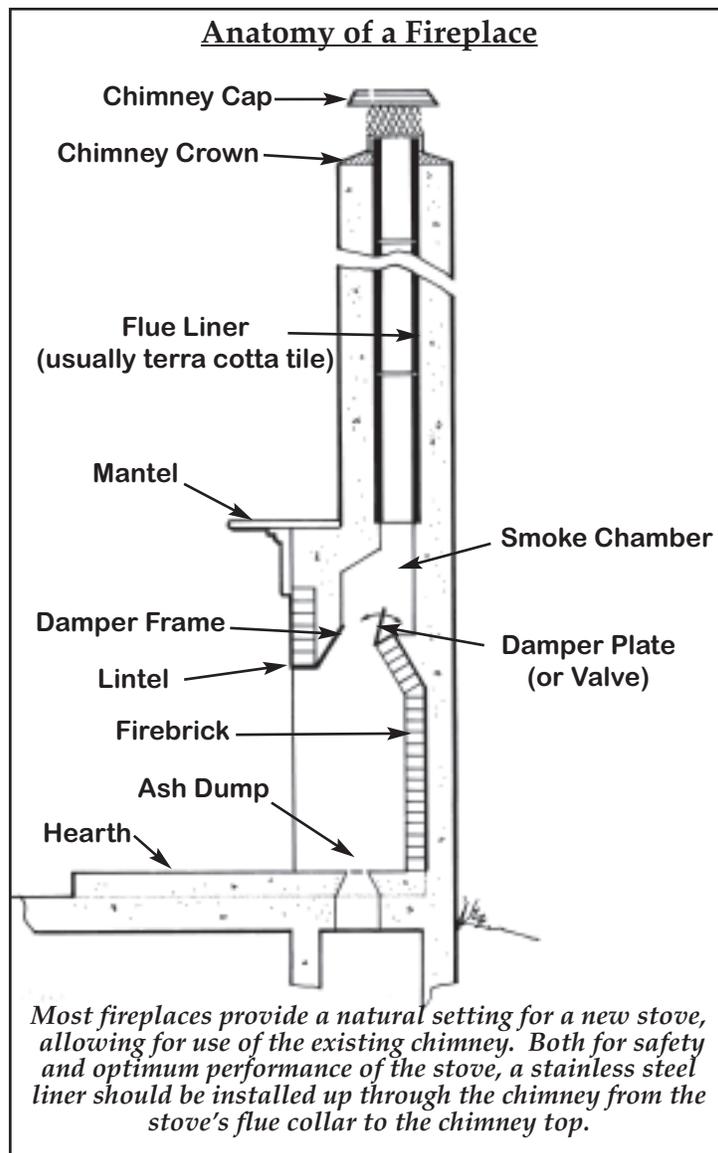
In some cases, a flexible stainless steel liner can be used inside the factory built chimney to bring the existing chimney up to 2100° standards. The chimney should be inspected by a certified chimney sweep (www.csia.org) before going ahead.

NOTE: This is a gray area in terms of existing standards. Most manufacturers of flexible liners clearly state that their products are designed to be used only in masonry chimneys. In a metal chimney, Underwriters Labs does not guarantee their safety, and it may be a consideration for your homeowner's insurance carrier or local fire code officials.

Another important consideration for replacing a factory-built fireplace is that they are engineered to be used in confined spaces with very narrow, or even "zero" clearance requirements. A freestanding wood stove cannot be installed in this space, and MUST conform to all of its own clearance requirements. This will most likely require renovating the hearth to make it safe for a freestanding woodstove.

Fireplace Inserts

If living space is at a premium, a fireplace insert has the distinct advantage of saving space, but most likely will not provide the heating efficiency of a freestanding wood stove. A lot of heat from an insert is lost up the chimney, although not nearly as much as from an open fireplace. Inserts usually require blowers, which make them unreliable during power outages. Any insert or stove that uses a fireplace chimney will require a full or partial liner, but for years, many inserts were installed without liners, creating a fire hazard in the upper sections of the fireplace from creosote build-up. The only way to properly clean these installations is to completely remove the insert from the fireplace during the chimney sweeping procedure.



In most cases, a fireplace hearth a good choice for siting a new woodstove. If you're still not sure if our stoves will work with *your* fireplace, or you have any questions about this type of installation, we are happy to help you from 9 am to 5 pm, Eastern Time, Monday through Saturday.